

## Describing addiction

**Physical dependence:** An individual has biologically adapted to a substance due to physical changes that occur within the brain.

**Psychological dependence:** An individual is compelled to continue to take a substance, it becomes central to their thoughts or they think they need it to cope.

**Tolerance:** An individual needs more of the substance to achieve the same effects (high) - synaptic changes.

**Withdrawal:** An individual experiences negative symptoms when they abstain from their addiction e.g. anxiety, weight gain. Happens due to neuroadaptation.

## Risk factors in addiction

<p><b>Genetics</b> Inherit vulnerability/ predisposition through DNA A1 variant of DRD2 gene – fewer dopamine receptors, more sensitive to positive effects of drugs/behaviour</p>	<ul style="list-style-type: none"> <li>✓ Comings – 49% of smokers carry A1 variant (26% in general pop)</li> <li>✗ Deterministic – not all carry gene / are an addict</li> <li>✗ Diathesis-stress model</li> </ul>
<p><b>Stress</b> Increased physiological state of arousal, short term or long term .Use addiction as a coping mechanism (self-medication model)</p>	<ul style="list-style-type: none"> <li>✓ Childs - smokers report higher cravings after stressful task</li> </ul>
<p><b>Personality</b> Impulsivity – acting without forethought/ consequences – leads to risky behaviours e.g. drug taking. Sensation seeking Cloninger 3 dimensions – high novelty seeking, inhibited harm avoidance, high reward dependence</p>	<ul style="list-style-type: none"> <li>✓ Sarramon – score on sensation seeking scale positively correlated with likelihood of addiction</li> <li>✗ Difficult to separate personality from genes</li> <li>✗ Personality can protect against addiction (is not always negative)</li> </ul>
<p><b>Family influences</b> Perceived parental approval Social learning theory – addiction may be learnt through observation and imitation</p>	<ul style="list-style-type: none"> <li>✓ Livingston – students allowed to drink at home had increased alcohol intake</li> <li>✗ Difficult to separate family influences from genes</li> </ul>
<p><b>Peers</b> Social learning theory – role models, addiction could become perceived 'norm' within peer group</p>	<ul style="list-style-type: none"> <li>✓ Bricker – peer influence is bigger predictor of smoking than parents</li> <li>✗ Research is only correlational</li> </ul>

## Explanations for nicotine addiction

**Brain neurochemistry (biological)** – the role of dopamine and the reward pathway, nicotine increases dopamine (in mesolimbic system), increase in pleasurable effects, individual continues to smoke to receive positive effects

- ✓ Corrigal & Cohen – mice would self-administer nicotine into reward centres unless dopamine system was inhibited/stopped
- ✗ Too narrow – other chemicals might be involved (GABA, serotonin)

**Nicotine regulation (biological)** – continue to receive nicotine to avoid withdrawal symptoms which occur when abstaining, increased tolerance (due to desensitisation of nicotine receptors)

- ✓ Shachter – participants smoked more low-nicotine cigarettes
- ✓ RWA – methods of reducing addiction (NRT)

**Cue reactivity (classical conditioning) (learning theory)** – smokers associate neutral stimuli (e.g. lighter) with pleasure of nicotine (UCS) and these act as 'cues' (conditioned stimuli) which increase craving

- ✓ Carter & Tiffany – meta-analysis, dependent smokers report higher cravings and arousal in presence of smoking related cues
- ✗ Individual differences in significance of cues – women more sensitive
- ✓ Positive RWA – banning of tobacco advertising, smoking in public to reduce exposure to smoking cues

## Explanations for gambling addiction

**Partial reinforcement (operant conditioning) (learning theory)** – gamblers are not rewarded each time they gamble (partial reinforcement), gambling is a 'variable ratio' schedule (rewarded after an unpredictable number of responses). Reinforces gambling behaviour as motivated to continue to receive rewards, becomes a persistent learnt behaviour

- ✓ Delabro and Winefield – regular gamblers had more fixed views about winning and gambled if they thought they would be rewarded (reinforced)

- ✗ May not explain all types of gambling addiction where the reward is delayed (e.g. the lottery)

- ✗ Environmentally deterministic, removes free will, ignores individual differences

**Cognitive biases (cognitive)** – gamblers are more likely to hold irrational beliefs/ expectancies about gambling, over-estimate chance of winning  
Biases include availability bias, illusion of control, flexible attribution, gambler's fallacy – increase belief that they will win so continue to gamble

- ✓ Griffiths – regular gamblers made 6x more irrational verbalisations during gambling task and believed they were more skilled at winning

- ✓ Positive RWA – led to CBT to reduce gambling (it is effective)

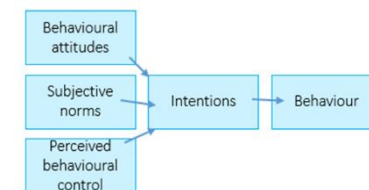
- ✗ Cause and effect – biases could be effect of gambling not cause

- ✗ Issues with self-report nature of research (may not be valid)

## Methods for reducing addiction

<p><b>Biological – Drug therapy</b> Alter neurochemical levels (dopamine, serotonin) Agonists – mimic effects (reduce withdrawal) e.g. NRT Antagonists – reduce effects</p>	<ul style="list-style-type: none"> <li>✓ Easy to administer, availability</li> <li>✗ Side effects</li> <li>✗ Symptoms not cause</li> </ul>
<p><b>Behavioural – aversion therapy</b> Based on classical conditioning – form unpleasant association (e.g. through an emetic) <b>Covert sensitisation</b> Imagine unpleasant consequence to form association</p>	<ul style="list-style-type: none"> <li>✗ Unethical</li> <li>✗ Short term effective (not cause)</li> <li>✓ Mcconachy – 90% effective</li> <li>✓ More practical</li> </ul>
<p><b>Cognitive – CBT</b> Functional analysis – identify/change cognitive biases, cognitive restructuring Skills training – deal with situations which trigger addiction</p>	<ul style="list-style-type: none"> <li>✓ More long term than drugs</li> <li>✓ Adaptable therapy</li> <li>✗ High drop out rate</li> </ul>

## The theory of planned behaviour



### Application to prevent addiction

Attitudes – graphic images  
Norms – ban in public places  
PBC – education programmes

- ✓ Hagger – all 3 elements predict drinking intentions
- ✗ Miller – may better predict intention, not behaviour
- ✗ Concepts are difficult to measure
- ✗ Addicts may not be logical/rational

## Prochaska's model - behaviour change

### Overcoming addiction is complex/ cyclical:

1. Precontemplation
2. Contemplation
3. Preparation
4. Action
5. Maintenance
6. Termination

Relapse is inevitable  
 ✓ Accounts for dynamic nature of recovery (flexible and humane)  
 ✓ RWA – used in therapy  
 ✗ Subjectivity in determining which stage  
 ✗ May be no more useful than non-staged based models